



**SAFETY DATA SHEET**  
**Tenotryl® (enrofloxacin)**  
**100 mg/mL Antimicrobial Injectable**  
**Solution**

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**1. IDENTIFICATION**

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<b>Product Name</b>	Tenotryl® (enrofloxacin) 100 mg/mL Antimicrobial Injectable Solution
<b>Recommended use of the chemical and restrictions on use</b>	
<b>Identified uses</b>	For the treatment and control of respiratory disease in cattle and swine. For the control of calibacillosis in swine.
<b>Restrictions on Use</b>	For animal use only.
<b>Company Identification</b>	Virbac AH, Inc. P.O. Box 162059 Fort Worth, Texas 76161 (800) 338-3659
<b>Customer Information Number</b>	
<b>Emergency Telephone Number</b>	
<b>CHEMTREC Number</b>	(800) 424-9300
<b>Other Emergency Number:</b>	Human Toll-free 833-224-2009 Animal Toll-free 833-224-2013
<b>Issue Date</b>	April 29, 2025
<b>Supersedes Date</b>	April 11, 2022

*Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)*

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**2. HAZARDS IDENTIFICATION**

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**Hazard Classification**

Sensitization – Respiratory – Category 1

Sensitization – Skin – Category 1

Specific target organ toxicity – repeated exposure – Category 2 (cartilage, testes)

**Label Elements**

Hazard Symbols



Signal Word: DANGER

**Hazard Statements**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause allergic skin reaction.

May cause damage to organs (cartilage, testes) through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention**

Do not breathe mist or vapors.

In case of inadequate ventilation, wear respiratory protection.

Contaminated work clothing must not be allowed out of the workplace.



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**2. HAZARDS IDENTIFICATION**

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Wear protective gloves.

**Response**

If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

If experiencing respirator symptoms: Call a poison control center/doctor.

If on skin: Wash with plenty of water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Get medical advice/attention if you feel unwell.

**Storage**

None

**Disposal**

Dispose of contents/container in accordance with local and national regulations.

**Other Hazards**

May cause allergic reaction if inhaled, ingested or in contact with the skin. Possible hypersensitivity (anaphylactic) reactions may occur in sensitive people. Avoid release to the environment.

**Specific Concentration Limits**

The values listed below represent the percentages of ingredients of unknown toxicity.

Acute oral toxicity	0 %
Acute dermal toxicity	30 - 40%
Acute inhalation toxicity	30 - 40%
Acute aquatic toxicity	>35%

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Synonyms:**

This product is a mixture.

<b>Component Name</b>	<b>CAS Number</b>	<b>Concentration</b>
Enrofloxacin	93106-60-6	10 %
L-Arginine	74-79-3	20 %
n-butyl alcohol	71-36-3	3 %
Benzyl Alcohol	100-51-6	2 %
Water	7732-18-5	65 %

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**4. FIRST AID MEASURES**

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**Description of necessary first-aid measures**

**Eyes**

Immediately flood the eye with plenty of water for several minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

**Skin**

Wash skin with soap and water. Obtain medical attention if redness or soreness persists.

**Ingestion**

Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

**Inhalation**

Remove person to fresh air. Seek medical attention if symptoms persist.



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**4. FIRST AID MEASURES**

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**Most important symptoms/effects, acute and delayed**

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

**Indication of immediate medical attention and special treatment needed**

**Notes to Physicians**

Treat symptomatically.

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**5. FIRE - FIGHTING MEASURES**

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**Suitable (and unsuitable) Extinguishing Media**

Use extinguishing media appropriate for surrounding materials.

**Specific hazards arising from the chemical**

None known

**Special Protective Actions for Fire-Fighters**

Wear full protective clothing and self-contained breathing apparatus.

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**6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures**

Wear appropriate protective clothing.

**Environmental Precautions**

Prevent the material from entering drains or watercourses.

**Methods and materials for containment and cleaning up**

Wipe up and transfer into suitable containers for recovery or disposal. Prevent the material from entering drains or watercourses.

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**7. HANDLING AND STORAGE**

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**Precautions for safe handling**

Wear appropriate protective clothing. Avoid contact with skin, eyes and clothing. Wash and remove contaminated clothing before reuse. Wash hands thoroughly after handling and before eating, drinking or smoking.

**Conditions for safe storage**

Store in original container at controlled room temperature 68°F to 86°F (20°C - 30°C) to maintain product integrity. Excursions permitted between 59°F to 104°F (15°C - 40°C). Precipitation may occur due to cold temperature. To redissolve, warm and then shake the vial.



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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**Control parameters**

Exposure limits are listed below, if they exist.

**n-butyl alcohol**

ACGIH TLV: 20 ppm (61 mg/m<sup>3</sup>) 8 hour TWA

OSHA PEL: 100 ppm (300 mg/m<sup>3</sup>) 8 hour TWA

**Enrofloxacin**

None established

**L-Arginine**

None established

**Benzyl alcohol**

None established

**Appropriate engineering controls**

Engineering methods to prevent or control exposure are preferred. Methods include process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

**Individual protection measures**

**Respiratory Protection**

If there is a risk of exposure use NIOSH certified respirators selected based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Skin Protection**

Gloves

**Eye/Face Protection**

Safety glasses or goggles.

**Body Protection**

Normal work wear.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Appearance**

	<b>Physical State</b>	Liquid
	<b>Color</b>	Clear yellowish
<b>Odor</b>		Slight characteristic odor
<b>Odor Threshold</b>		No data available
<b>pH</b>		9.8 – 10.2
<b>Specific Gravity</b>		1.06 to 1.1 g/cm <sup>3</sup>
<b>Boiling Range/Point (°C/F)</b>		No data available
<b>Melting Point (°C/F)</b>		No data available
<b>Flash Point (PMCC) (°C/F)</b>		Not flammable
<b>Vapor Pressure</b>		No data available
<b>Evaporation Rate (BuAc=1)</b>		No data available
<b>Solubility in Water</b>		Soluble
<b>Vapor Density (Air = 1)</b>		No data available
<b>VOC</b>		No data available
<b>Partition coefficient (n-octanol/water)</b>		Not applicable
<b>Viscosity</b>		Not applicable
<b>Auto-ignition Temperature</b>		No data available
<b>Decomposition Temperature</b>		No data available
<b>Upper explosive limit</b>		No data available



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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Lower explosive limit** No data available  
**Flammability (solid, gas)** No data available

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**10. STABILITY AND REACTIVITY**

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**Reactivity**

Data is not available.

**Chemical Stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**Conditions to Avoid**

Heat - high temperatures

**Incompatible Materials**

Oxidizing agents

**Hazardous Decomposition Products**

Oxides of carbon

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**11. TOXICOLOGICAL INFORMATION**

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**Acute Toxicity**

Enrofloxacin

Oral LD50 (rat) 5000 mg/kg

Dermal LD50 (rabbit) >2,000 mg/kg

Benzyl Alcohol:

LD50 (rat) 1,620 mg/kg

L-Arginine

LD50 (rat) 5100 mg/kg

**Specific Target Organ Toxicity (STOT) – single exposure**

No relevant studies identified.

**Specific Target Organ Toxicity (STOT) – repeat exposure**

Enrofloxacin may cause damage to organs (cartilage, Testis) through prolonged or repeated exposure.

(Some EU ECHA CLP notifiers)

**Serious Eye damage/Irritation**

Not expected to cause adverse effects based on available information

**Skin Corrosion/Irritation**

Not expected to cause adverse effects based on available information



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**11. TOXICOLOGICAL INFORMATION**

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**Respiratory or Skin Sensitization**

Enrofloxacin was not a sensitizer in guinea pigs. (RTECS No: VB1993650). Some EU ECHA CLP notifiers classified as a respiratory and skin sensitizer. May cause allergic reaction if inhaled, ingested or in contact with the skin. Possible hypersensitivity (anaphylactic) reactions may occur in sensitive people.

**Carcinogenicity**

Enrofloxacin: Not considered carcinogenic by NTP, IARC, and OSHA. Was negative for carcinogenicity in mice and rats. (RTECS No: VB1993650)

**Germ Cell Mutagenicity**

Enrofloxacin: Not considered genotoxic by the Joint FAO/WHO Expert Committee of Food Additives. (RTECS No: VB1993650)

**Reproductive Toxicity**

Some evidence of alteration in sperm morphology in animal studies.

**Aspiration Hazard**

Not an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity**

Enrofloxacin:  
LC50 (Bluegill sunfish): 79.5 mg/l 96 hr  
EC 50 (Water flea) 79.9 mg/l 48 hr  
NOEC (Water flea) 5 mg/l 21 d

**Mobility in soil**

Enrofloxacin: Distribution among environmental compartments: Koc: 5.55

**Persistence/Degradability**

Benzyl Alcohol: readily biodegradable.

**Bioaccumulative Potential**

Enrofloxacin: Partition coefficient: n-octanol/water: log Pow 0.5

**Other adverse effects**

No relevant studies identified.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal Methods**

Dispose of in accordance with all applicable local and national regulations.



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**14. TRANSPORT INFORMATION**

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	<b>UN Number</b>	<b>Proper shipping name</b>	<b>Hazard Class</b>	<b>Packing Group</b>	<b>Environmental Hazard</b>
<b>DOT</b>		Not Regulated			
<b>IMDG</b>		Not Regulated			
<b>IATA</b>		Not Regulated			

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**15. REGULATORY INFORMATION**

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**United States TSCA Inventory**

This product is excluded from the US EPA Toxic Substance Control Act as it is regulated under the Food, Drug and Cosmetic Act.

**SARA Title III Sect. 311/312 Categorization**

Respiratory and Skin Sensitization – Specific target organ toxicity (repeat)

**SARA Title III Sect. 313**

The following chemicals are listed in Section 313 at or above de minimis concentrations: None.

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**16. OTHER INFORMATION**

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**Legend**

ACGIH: American Conference of Governmental Industrial Hygienists

BOD: Biological Oxygen Demand

CAS#: Chemical Abstracts Service Number

FIFRA: Federal Insecticide, Fungicide and Rodenticide Act

IARC: International Agency for Research on Cancer

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

N/A: Denotes no applicable information found or available

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit

TLV: Threshold Limit Value

TSCA: Toxic Substance Control Act

Revision Date: April 29, 2025

Replaces: April 11, 2022

Changes made: Added Transportation information in Section 14.

**Information Source and References**

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Tenotryl is a registered trademark of Virbac S.A.



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